CURRICULUM VITAE

PERSONAL DATA

Surname: **Cheraghchi**

First name: **Hosein**

Place of birth (city-country): Sarakhs - Iran

Date of birth (Day-Month-Year): 11/8/1972

Nationality: Iranian

ADDRESS

Associate Professor, Physics Department, *Damghan University*, Damghan, Iran

Email: *cheraghchi@du. ac.ir*

FIELD of STUDY:

Condensed Matter Physics:

- *Quantum Transport and magnetic properties of Topological insulators- Ordered and disordered*
- *Non-Equilibrium Electronic Transport through Mesoscopic systems*
- *Transport through monolayer and bilayer graphene+CNTs*
- *Anderson Localization and localization properties in disordered systems*
- *Transport through Driven systems*

EDUCATIONS

***B.Sc. 1990-1994** Shiraz University, Shiraz, Iran*

***M.Sc. 1994-1996** Ferdowsi University of Mashad, Mashad, Iran*

***Ph.D. 2001 -2007** Sharif University of Technology, Tehran, Iran*

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*Lecturer **(1997-2001)** in **Physics Department of Damghan University***

SUPERVISORS

- ***Ph.D. : Prof . Keivan Esfarjani, Department of Mechanical and Aerospace Engineering, Virginia University; Ph. D. Thesis*: Transport properties in disordered one-dimensional systems and interacting nano contacts, *Physics Department, Sharif University of Technology, (Sep 2007).***
- ***M.Sc.** : Dr . Sayyed Hossein Keshmiri, Ferdowsi University, Microelectronic Laboratory Research , Faculty of Science ,Ferdowsi University of Mashad ,Mashad , Iran, (Sep 1997); **M.Sc. Thesis***: Investigation of Microstructure and Photoluminescence of Porous Silicon Layers ".

BOOK

*Book title: **Graphene Simulation** (ISBN 978-953-308-60-2, Publisher: **InTech**)*
*Chapter title: **Nonlinear Transport through Ultra Narrow Zigzag Graphene Nanoribbons***
*Author: **Hosein Cheraghchi***

JOURNAL PAPERS

1. ***H. Cheraghchi,** S. M. Fazeli, K. Esfarjani,* "Localization - delocalization transition in a one-dimensonal system with long-range correlated off-diagonal disorder", **Physical. Review. B.** *72. 174207* ***(2005).***
2. ***H. Cheraghchi**, S. M. Fazeli, "* Statistical properties of a localization-delocalization transition induced by correlated disorder*"*, **Journal of Statistical Mechanics: Theory and Experiment,** *P1004*, ***(2006).***
3. ***H. Cheraghchi***,"Scaling properties of one-dimensional off-diagonal disorder", **Journal of Statistical Mechanics: Theory and Experiment,** *P1006*, ***(2006).***
4. *A. Esmailpour, **H. Cheraghchi,** P. Carpena, M. R. Rahimi Tabar, "*Metal-Insulator Transition in a ternary model with long-range correlated disorder*"*, **Journal of Statistical Mechanics: Theory and Experiment,** *P09014*, ***(2007).***
5. ***H. Cheraghchi**, K. Esfarjani, "*Negative differential resistance in molecular junctions: application to graphene ribbon junctions *"*, **Physical Review. B.** *78. 085123* ***(2008).***
6. ***H. Cheraghchi**, K. Esfarjani, "*Negative differential resistance in carbon nanoyube nanojunction *"*,unpublished***, (2009).***
7. ***H. Cheraghchi**, H. Esmailzade,* "Gate-Induced Switch of Even Zigzag Graphene Naoribbons and its charging effects", **Nanotechnology,** *21, 205306***, (2010).***
8. ***H. Cheraghchi***, " Nonlinear transport through ultra-narrow zigzag graphene nanoribbons: non-equilibrium charge and bond currents"***, Physica. Scripta****. 84, 015702****(2011).***
9. ***H. Cheraghchi,** A. A. Irani, S. M. Fazeli, R. Asgari, "*Metallic phase of disordered graphene superlattices with long-range correlations*"*, **Physical. Review. B.** *83, 235430* ***(2011).***
10. *S. Khazaei, M. Khazaei,* ***H. Cheraghchi****, V. Daadmehr, Y. Kawazoe***,** Considering the effect of different arrangements of pentagons on density of states of capped carbon nanotubes **, Physica B.** *406 3885–3890* ***(2011) .***
11. ***H. Cheraghchi,** F. Adinehvand,* "Spin polarization and magnetoresistance through a ferromagnetic barrier in bilayer graphene"**, Journal of Physics: Condensed matter,** *24, 045303* **(2012).**

12. *V. Derakhshan,* ***H. Cheraghchi****, "* Edge proximity-induced magnetoresistance and spin polarization in ferromagnetic gated bilayer graphene nanoribbon*".* ***Journal of Magnetism and Magnetic Materials,*** *357, 29-34* ***(2014).***
13. ***H. Cheraghchi****, F. Adinehvand, "*Control over band structure and tunneling in bilayer graphene induced by velocity engineering*",* **Journal of Physics: Condensed matter,** *26, 015302* ***(2014).***
14. ***H. Cheraghchi,*** *"* Non-adiabatic pure spin pumping in zigzag graphene nanoribbons with proximity induced ferromagnetism"***,*** ***Journal of Magnetism and Magnetic Materials****, 264, 264-269 (****2015****).*
15. *F. Askari Shahid,* ***H. Cheraghchi***, "Topological properties and edge states in a driven modified dimerized chain", unpublished, ***(2016).***
17. ***H. Cheraghchi,*** *H. Esmailzadeh, A. G. Moghaddam,* "Superconducting electron and hole lenses"*,* ***Physical. Review. B.*** 93. 214508 (***2016***).
18. *M .Shiranzaei, F. Parhizgar,* ***H. Cheraghchi****,, "*Effect of Rashba splitting on RKKY interaction in topological insulator thin films*",* ***arXiv:1702.02307*****, (*****2017*****). Accepted in *****Physical. Review. B.***
19. *M. Shiranzaei, F. Parhizgar, J. Fransson,* ***H. Cheraghchi***, " Impurity scattering on the surface of topological insulator thin films", ***arXiv:1702.06424***, (***2017***). **Accepted in *****Physical. Review. B.***
20. *F. Adinehvand,* ***H. Cheraghchi****, "Effect of asymmetric Fermi velocity on trigonally warped spectrum of bilayer graphene",* **J. Phys. Chem. Solids, 107, 118** (***2017***).
21. *T. Sabze,* ***H. Cheraghchi****, "*Effect of Chiral selective tunneling on quantum transport in magnetic topological insulator thin films*",* in preparation, (***2017***)

SCIENTIFIC ACTIVITIES & HONORS

1. **Regular Associate member of the Abdus-Salam International Centre for Theoretical Physics (ICTP), 2014-2019, Trieste, Italy**.
2. Associate Professor of Damghan University, 2016-yet.
3. Scientific Committee of *"Annual meeting of low dimensional systems", Tabriz University, Tabriz, 25-26 May*, **2015**.
4. Scientific Committee of "*13 th Conference on Condensed Matter Physics, Physical Society of Iran,", Rajaee University, Tehran, 4-5 Feb*, **2017**.
5. **Short- Term Visit in the Condensed Matter and Statistical Mechanics Section, ICTP, Trieste, Italy, 20 July- 15 Aug 2012.**
6. Scientific Committee of *"First national conference on computational science", Damghan University, Damghan, 6-7 Sep*, ***2012***.
7. Long- Term Visit in School of Physics, Institute for Research in Fundamental Sciences (**IPM**), Tehran, 20 Oct **2010** -20 March **2011**.
8. Assistant Professor of Damghan University of Basic Sciences, 2007-2016.
9. Young Collaborator in the Abdus-Salam International Centre for Theoretical Physics (**ICTP**), Trieste, Italy, Summer **2003** for 3 months.

10. *Honor Lecturer of Damghan University of Basic Sciences in Year of **2000**.*
11. *Honor Student of Physics Department of Shiraz University in B. S. Level, **1994.***
12. *Head of Physics Department of Damghan University of Basic Sciences during ,**1998-2001.***
13. *Head of the Graduated Studies office in Damghan University, during **2010-2012**.*

Invited Speaker

1. *Title of Talk* : *"Nonadiabatic charge and spin pumping through driven quasi-one dimensional systems", Conference on Many-Body Systems*, **Khaje Nasir Toosi University of Technology, Tehran (***12 November 2015***).** **(***http://psi.ir/farsi.asp?page=mbs94***).**
2. **General Speaker**: "**Electronics and Spintronics in Graphene**", ***12 th Conference on Condensed Matter Physics, Physical Society of Iran***, *Isfahan University of Technology, Isfahan* ***(28-29 January 2015)***. *(http://www.psi.ir/farsi.asp?page=cmc12)*
3. *Title of Talk: "* **Spin and Charge transport in Ferromagnetic Graphene", *Recent Progress in Two-dimensional Systems***, *School of Physics, Institute for Research in Fundamental Sciences (**IPM**), Tehran,* ***(9th October 2014)****(http://physics.ipm.ac.ir/conferences/rpts/title.jsp).*
4. *Title of Talk: "***The effect of velocity modulation on band structure and tunneling in bilayer graphene***", **Workshop on "Quantum transport in graphene*** **(In memory of late Prof. Malek Zareyan, 1971-2014)**, *School of Physics, Institute for Research in Fundamental Sciences (**IPM**), Tehran,* **(24 th April 2014)** *(http://physics.ipm.ir/conferences/qtg/index.jsp).*
5. *Title of Talk: "***Transport through Graphene Nanoribbons and Disordered Graphene Superlattice** *", **Workshop on Graphene and Topological Insulators,** School of Physics, Institute for Research in Fundamental Sciences (**IPM**), Tehran,* **(29-30 Septembre, 2010)** *(http://physics.ipm.ac.ir/conferences/qtic/index.jsp).*
6. *Title of Talk: "***Negative Differential Resistance in Graphene Nanoribbon Junctions", *National Conference on strongly correlated electronic systems,* Physics Department, Sharif University of Technology, Tehran* **(25 December 2008).***(http://spin.cscm.ir/sces08/program.html)*

CONFEREENCES (TALKS & POSTERS)

1. S. Amiri, H. Cheraghchi, M. Azadparvar, " **Band structure and density of states in black phosphorus sheets in the presence of impurity**", **",** 22 thAnnual IASBS Meeting on Condensed Matter Physics, Zanjan, **(26-27, May 2016).**
2. S. Amiri, H. Cheraghchi, "Spin polarization in Phosphorene band structure induced by impurities", The 23 th spring conference of physics, Institute for research in fundamental sciences (IPM), Tehran (18-19 May 2016).
3. *H. Cheraghchi,* **"Pure spin pumping in zigzag graphene nanoribbons with proximity induced ferromagnetism",** *Conference on Frontiers of Nanoscience* 24 August - 1 September **2015**, *ICTP, Trieste, Italy.*

4. *F. Adinehvand, F. Askari, H. Cheraghchi*, **"Band structure of graphene nanoribbons in presence of irradiated polarized light",** 21 thAnnual IASBS Meeting on Condensed Matter Physics, Zanjan, **(27-28, May 2015).**
5. *Z. Fallahi, H. Cheraghchi, M. Ardianian, S. Rouhani*, **"Determination of the roughness exponent and fractal analysis of ZnO thin film deposited by spray pyrolysis",** 12 th Conference on Condensed Matter Physics, Physical Society of Iran, Isfahan University of Technology, Isfahan (28-29 **January 2015**).
6. *E. Rahmati, H. Cheraghchi,*" **Electron scattering in the ferromagnetic graphene nanoribbons(GNRs) by magnetic impurities ",** 20th Annual IASBS Meeting on Condensed Matter Physics, Zanjan (28-30, **May 2014**).
7. *F. Pasha, H. Cheraghchi*, **"Quantum pumped purrent in graphene nanoribbons",** 20th Annual IASBS Meeting on Condensed Matter Physics, Zanjan (28-30, **May 2014**). (Selected Paper).
8. *H. Cheraghchi, F. Adinehvand*, **"Control over band structure and tunneling in bilayer graphene induced by velocity engineering**", the 5th International Conference on Nanostructures, Kish Island, Iran **(**6-9 **March 2014).**
9. *M. Massah, H. Cheraghchi, S. Rouhani*, **"Determination of the roughness exponent and fractal dimension of iso-height contours for ZnO thin films**", Annual Physics Conference of Iran, Birjand University, Birjand (26-29 **Aug 2013**).
10. *M. A. Keshtan, H. Cheraghchi, '* **Simulation of generation of current vortexes in a zigzag monolayer Graphene nanoribbon at the presence of strong external magnetic field using bond current formalism',** *Annual Physics Conference of Iran, Yazd University, Yazd, (21-24 **Aug 2012**).*
11. *M. Nabavi, H. Cheraghchi, '* **Generation of energy gap in the graphene antidot lattices***', Annual Physics Conference of Iran, Urmia University, Urmia, (5-7 **Sep 2011**).*
12. *M. Nabavi, H. Cheraghchi, '* **Zero mode dependence on the hole structure of antidot graphene lattices***', Annual Physics Conference of Iran, Urmia University, Urmia, (5-7 **Sep 2011**).*
13. *M. Nabavi, H. Cheraghchi, '* **The effect of unit cell geometry on the stability and band structure of graphene antidot lattices'**, *Annual Physics Conference of Iran, Urmia University, Urmia, (5-7 **Sep 2011**).*
14. *Z. Akbarinejad, H. Cheraghchi, '* **Magnetization and stability of triangular graphene quantum dots with hydrogen edged saturation in the presence and absence of Fluorine impurity***', Annual Physics Conference of Iran, Urmia University, Urmia, (5-7 **Sep 2011**).*
15. *Z. Akbarinejad, H. Cheraghchi, "***Stability and magnetization of triangular graphene quantum dot with zigzag edges***", The 18th spring conference of physics, Institute for Research in Fundamental Sciences (IPM), Tehran, (18-19 **May 2010**)*
16. *V. Derakhshan, H. Cheraghchi, S. A. Ketabi, "***Investigation of energy gap in bilayer graphnene nanoribbon with the zigzag edges***", The 10 th conference on Condensed Matter , Shiraz University, Shiraz, Iran, (26-27 **Jan 2011**).*
17. *V. Derakhshan, H. Cheraghchi, S. A. Ketabi, "***Transport gap and Electronic transport through bilayer graphene nanoribbin with the zigzag edges***", The 10 th conference on Condensed Matter , Shiraz University, Shiraz, Iran, (26-27 **Jan 2011**).*
18. *F. Adinehvand, H. Cheraghchi,* **"Spin polarization in bilayer graphene located in the proximity of magnetic insulator",** *The 17th spring conference of physics, Institute for Research in Fundamental Sciences (IPM), Tehran, (19-20 **May 2010**)*
19. *F. Adinehvand, H. Cheraghchi, "***Conductance of Dirac quasi-particles through bilayer graphene superlattice",** *Annual Physics Conference of Iran, Bu-Ali Sina University, Hamedan , (11-14 Sep **2010**).*

20. *A. A. Irani, H. Cheraghchi, S. M. Fazeli,"* **Resonant states in conductance of graphene superlattice with correlated disorder on potentials",** *Annual Physics Conference of Iran, Bu-Ali Sina University, Hamedan , (11-14* ***Sep 2010****).*
21. *H. Esmailzade, H. Cheraghchi, "***Nonlinear electronic transport through zigzag graphene nanoribbon with asymmetric effects***", The 16th Gava-Zang meeting on condensed matter physics, Institute for advanced studies in basic science, Zanjan, Iran (27-28* ***May 2010****).*
22. *F. Adinehvand, H. Cheraghchi, "Electronic transport through bilayer superlattice graphene", The 16th Gava-Zang meeting on condensed matter physics, Institute for advanced studies in basic science, Zanjan, Iran (27-28* ***May 2010****).*
23. *A. A. Irani, H. Cheraghchi, S. M. Fazeli, "Metal-insulator transition in the presence of long-range correlated disorder", The 16th Gava-Zang meeting on condensed matter physics, Institute for advanced studies in basic science, Zanjan, Iran (27-28* ***May 2010****).*
24. *H. Cheraghchi, H. Esmailzade, "***Nonlinear Electronic Transport through Zigzag Graphene Nanoribbons",** *Spring college on computational nanoscience, 17 - 28 May* ***2010****, ICTP, Trieste, Italy.*
25. *H. Cheraghch, A. A. Irani, S. M. Fazeli, "***Localization-delocalization transition through graphene superlattice with long-range correlated disorder on potential barriers***",* *Advanced workshop on Anderson localization, nonlinearity and turbulence: a cross-fertilization",* 23 August - 3 September **2010**, ICTP, Trieste, Italy.
26. *A. A. Irani,* ***H. Cheraghchi****, S. M. Fazeli,* **' Conductance through Superlattice Graphene with Disorder Potential Barriers'**, *The first National Conference on Role of Science in Nanotechnology, Imam Hossein University,* ***(9-10 Dec 2009)****.*
27. *A. A. Irani,* ***H. Cheraghchi****, S. M. Fazeli,* **' Electronic Transport through Disordered Superlattice Graphene'**, *The first National Conference on Role of Science in Nanotechnology, Imam Hossein University,* ***9-10 Dec (2009)****.*
28. *A. Habibi,* ***H. Cheraghchi,*****"Statistical Properties and conductance of rough graphene sheets",** *Annual Physics Conference of Iran, Isfahan University of Technology, 15-18 Aug (****2009****).*
29. *S. Hosseini,* ***H. Cheraghchi****, "***Edge Disorder Effects on Spectrum of Conduction Modes in Graphene Nanoribbons***", Annual Physics Conference of Iran, Isfahan University of Technology, 15-18 Aug (****2009****).*
30. *S. Khazaei, M. Khazaei, V. Daadmehr,* ***H. Cheraghchi, "*****Calculating the density of states for carbon nanotubes with different tip geometries using Green's function approach***", Annual Physics Conference of Iran, Isfahan University of Technology, 15-18 Aug (****2009****).*
31. *H. Esmailzade,* ***H. Cheraghchi, "*****Electronic Switch made by Even Graphene Nanoribbons** *", The 15th Gava-Zang meeting on condensed matter physics, Institue for advanced studies in basic science, Zanjan, Iran (21-22* ***May 2009****).*
32. *S. Hosseini,* ***H. Cheraghchi,*** *A. Habibi, "***Anderson Localization in Graphene Sheets***", The 9 th Condensed Matter Conference , Chamran University, Ahwaz, Iran, (4-5* ***Feb 2009****).*
33. *A. H. Irani,* ***H. Cheraghchi, "*****Graphene sheets as a direction and energy of electronic filter***", The 9 th Condensed Matter Conference , Chamran University, Ahwaz, Iran, (4-5* ***Feb 2009****).*
34. *H. Esmailzade,* ***H. Cheraghchi, "*****Electronic Transport through Armchair Graphene Nanoribbons***", The 9 th Condensed Matter Conference , Chamran University, Ahwaz, Iran, (4-5* ***Feb 2009****)*

35. *A. Habibi*, ***H. Cheraghchi***, "**Anderson Localization in the Square and Cubic Lattices**", *The 9 th Condensed Matter Conference , Chamran University, Ahwaz, Iran, (4-5* ***Feb 2009****)*
36. ***H. Cheraghchi,*** *K. Esfarjani*, "**Negative Differential Resistance in Graphene Nanoribbon Junctions",** *National Meeting of strongly Correlated Systems, Sharif University of Technology, Tehran, 26 Dec (****2008****). Invited Speaker.*
37. ***H. Cheraghchi,*** *A. Habibi, "* **Anomalous properties of localization in one-dimensional disordered models***", Annual Physics Conference of Iran, Kashan University, Kashan, 26-29 Aug (****2008****).*
38. ***H. Cheraghchi,*** *K. Esfarjani, "***Scaling properties of one-dimensional off-diagonal disorder***", as a Poster in College on Physics of Nano-Devices,* ***the Abdus Salam International Centre for Theoretical Physics (ICTP)*** *, Miramare, Trieste, Italy (10-21* ***July 2006****).* ***cond-mat/0603294***
39. *V. Chegeni*, ***H. Cheraghchi,*** *M. R. Sarkardei*, **"The calculation of the eigenvalues spectrum of atoms with the full-filled electron shells in the Restricted Hartree-Fock Approximation"**, *The 12th Gava-Zang meeting on condensed matter physics, Institute for advanced studies in basic science, Zanjan, Iran (25-26* ***May 2006****).*
40. ***H. Cheraghchi,*** *K. Esfarjani, "***Scaling properties of one-dimensional off-diagonal disorder***", The 12th Gava-Zang meeting on condensed matter physics, Institute for advanced studies in basic science, Zanjan, Iran (25-26* ***May 2006****).*
41. ***H. Cheraghchi,*** *S. M. Fazeli, K. Esfarjani, "***Metal-Insulator Transition in one dimensional systems with long-range correlated hopping disorder***", The 12th Gava-Zang meeting on condensed matter physics, Institute for advanced studies in basic science, Zanjan, Iran (25-26* ***May 2006****).. Cond-mat/0507274*
42. ***H. Cheraghchi,*** *S. M. Fazeli, K. Esfarjani, "***Localization Properties of one dimensional correlated off-diagonal disorder***", as a Poster in* ***(a)*** *Conference on Strongly Interacting Systems at the Nanoscale (8-12* ***Aug 2005) (b)*** *School on Quantum Phase Transitions and Non-Equilibrium Phenomena in Cold Atomic Gases (11-22* ***July 2005****),* ***the Abdus Salam International Centre for Theoretical Physics (ICTP)*** *, Miramare, Trieste, Italy.* ***cond-mat/0507274***
43. ***H. Cheraghchi,*** *K. Esfarjani, "***Delocalization states in one dimensional system with special configuration of off-diagonal elements** *", The 7 th Condensed Matter Conference , Elmo-Sanat university of Iran, Tehran, Iran, (25-26* ***Jan 2005****).*
44. ***H. Cheraghchi,*** *K. Esfarjani, "* **The effect of disorder on the density of states of Carbon Nanotube by Coherent Potential Approximation (CPA)** *", Annual Physics Conference of Iran, Power and Water University of Technology (Shahid Abbaspour), Tehran, Iran, (23-26* ***Aug 2004****).*
45. ***H. Cheraghchi,*** *K. Esfarjani, "* **Long range coulomb interaction in Quantum Wire** *", The 10th Gava-Zang meeting on condensed matter physics, Institute for advanced studies in basic science, Zanjan, Iran (20-21* ***May 2004****).*
46. ***H. Cheraghchi*** *, K. Esfarjani , M. Mardani ,"* **Effect of Disorder and External Potential on the Electron Transport and I-V Curve of a Quantum Dot** *",The 9th Gava-Zang meeting on condensed matter physics, Institue for advanced studies in basic science, Zanjan, Iran (8-9* ***May 2003****).*
47. *K. Esfarjani*, ***H. Cheraghchi*** *, A. Farajian ,"* **Effect of Disorder on Carbon Nanotube** *", Research Project in Sharif University of Technology, (16* ***Mar 2003****).*

48. ***H. Cheraghchi*** *, K. Esfarjani , "* **Investigation of Disorder Effect on Density of States by CPA** *" , The 6 th Condensed Matter Conference ,Yazd, Iran, (1 - 2* ***Feb 2003****).*

STUDENTS

1. *Hanyeh Esmailzade (M. Sc.) Graduated (July* ***2009****), Thesis:* **Electronic Transport Properties in Graphene Nanoribbons**. *(*Now PhD student at Institute for advanced studies in basic science*)*
2. *Somayeh Hosseini (M. Sc.) Graduated (July* ***2009****), Thesis:* **Anderson Localization in one and two dimensional systems: application in graphene sheets**. *(*Now PhD student at Azad University, Science and Research Branch*)*
3. *Alireza Habib (B. Sc.) Graduated (July* ***2009****), Thesis:* **Roughness and Anderson Localization in Graphene Sheets.** *(*Now PhD student at Sharif University of Technology)
4. *Somayeh Khazaei (M. Sc.) Graduated (Feb* ***2010****) Thesis:* **Field Emission through Capped Carbon Nanotubes.**(*Now PhD student at Matrin-Luther University of Hall-Wittenberg, Germany*)
5. *Amirhossein Irani (M. Sc.) Graduated (July* ***2010****) Thesis:* **Klein Tunneling in disordered monolayer Graphene Superlattices. (**Diploma at ICTP 2010-2011, Now PhD student at Massey University, New Zealand**)**
6. *Fatemeh Adinehvand (M. Sc.) Graduated (Sep* ***2011****) Thesis:* **Spin transport through ferromagnetic bilayer graphene junctions.** *(*Now PhD student at Damghan University*)*
7. *Vahid Derakhshan (M. Sc.) Graduated (Sep* ***2011****) Thesis:* **Spin polarization and magnetization through bilayer graphene nanoribbons.** *(*Now PhD student at Damghan University*)*
8. *Maryam Nabavi (M. Sc.), Graduated (Feb* ***2012****) Thesis:* **Energy band structure and transport properties of graphene antidot lattices.**
9. *Zahra Akbarinejad (M. Sc.), Graduated (Feb* ***2012****) Thesis:* **Stability and magnetization of traiangular graphene quantum dot with zigzag edges.**
10. *Mohammad Mohammadi Keshtan (M. Sc.), Graduated (Sep* ***2012****) Thesis:* **Electronic and Thermal Response functions of graphene nanoribbons in the presence magnetic field.**(*Now PhD student at Iran University of Science and Technology*)
11. *Mozhdeh Massah* (M. Sc.), Graduated (Sep **2013**) *Thesis*: ***Study of Statistical and Morphological Properties of ZnO Rough Surfaces Deposited by Spray Pyrolysis. (****Now PhD student at Max-Planck-Institute for the Physics of Complex Systems****)*
12. *Fatemeh Pasha* (M. Sc.), Graduated (June **2014**) *Thesis*: **Non-adiabatic Quantum Pumping in Graphene nanoribbons**.
13. *Elham Rahmati (M. Sc.),* Graduated (Feb **2015**) Thesis: **Boltzmann Conductivity through Ferromagnetic Graphene Nanoribbons**.
14. *Saeed Amiri (M. Sc.),* Graduated (Sep **2016**) Thesis: **Investigation of the band structure and quantum transport through Phosphorene in the presence of impurity**.

WORKSHOPS

1. *"Summer School on Quantum Many-Body Physics of Ultra-Cold Atoms and Molecules", 1-14 July 2012, ICTP, Trieste, Italy*
2. *"Workshop on Quantum Simulations with Ultracold Atoms ", 16-20 July 2012, ICTP, Trieste, Italy.*
3. ***"Advanced School of Recent Progress in Condensed Matter Physics and Strongly Correlated Systems",*** *School of Physics, IPM, Tehran, 27-28 June 2012.*
4. *"**SPRING COLLEGE ON COMPUTATIONAL NANOSCIENCE**", 17 - 28 May **2010**, ICTP, Trieste, Italy.*
5. ***"ADVANCED WORKSHOP ON"*** **ANDERSON LOCALIZATION, NONLINEARITY AND TURBULENCE: A CROSS-FERTILIZATION",** 23 August - 3 September **2010**, ICTP, Trieste, Italy.
6. ***"Advanced School of Recent Progress in Condensed Matter Physics and Strongly Correlated Systems",*** *School of Physics, IPM, Tehran, 5-9 July **2008**.*
7. ***"Workshop on High Performance Computing (HPC08)",*** *School of Physics, IPM, Tehran, February 16-21, **2008.***
8. *"*College on **Physics of Nano-Devices***", ICTP, Miramare, Trieste, Italy (10-21 **July 2006**).*
9. *"*Conference on **Strongly Interacting Systems at the Nanoscale***", ICTP, Miramare, Trieste, Italy (8 - 12 **Aug 2005**).*
10. *"*Summer School and Miniconference on **Dynamical Mean-Field Theory for Correlated Electrons Applications to Real Materials, Extensions and Perspectives***", ICTP, Miramare, Trieste, Italy (25 **July** - 3 **Aug 2005**).*
11. *"*School on **Quantum Phase Transitions and Non-Equilibrium Phenomena in Cold Atomic Gases***", ICTP, Miramare, Trieste, Italy (11-22 **July 2005**).*
12. *"*10th Comference on **Hopping and Related Phenomena (HRP 10)***" , ICTP, Miramare, Trieste, Italy (1-4 **Sep 2003**).*
13. *ICTP-INFM Conference on "* New Frontiers in Nano-Biotechnology: **Monitoring Protein Function with Single-Protein Resolusion** *", ICTP, Miramare, Trieste, Italy (15-19 **July 2003**).*
14. *" Third stig Lundqvist Conference on Advancing Frontiers of Condensed Matter Physics:* **Fundamental Interactions and Excitations in Confined systems** *", ICTP, Miramare, Trieste, Italy (11-15 **Aug 2003**).*
15. *Euroconference on "Ab* **initio Many-body Theory for Correlated Electron Systems** *", ICTP, Miramare,Trieste, Italy (25-29 **Aug 2003**).*
16. *"* **Special Course of Computation Methods in Nano Physics of Condensed Matter** *", Kashan, Iran, (22-23 **May 2002**)*
17. *"* **The ICTP's Regional Workshop on Computational Condensed Matter Physics** *", Isfahan University of Technology, Isfahan, Iran, (15 - 25 **Apr 2002**).*
18. *"* **Pre-workshop on Computational Condensed Matter Physics** *", Isfahan University of Technology, Isfahan, Iran (28- 31 **Jan 2002**).*

TEACHING

1. *"***Advanced Quantum Mechanics***", Course in two semesters, Text Book: "Modern Quantum Mechanics", J. J. Sakurai*

2. *" **Special Topics in Condensed Matter Physics**", Course in one semester, Text Book: Electronic Transport in Mesoscopic Systems, S. Datta, Cambridge University Press, 1995.*
3. *" **Quantum Mechanics** " Course in two semesters, Text Book : Quantum Physics, S .Gasiorowicz , John Wiley&Sons,1996*
4. *" **Solid State Physics** " Course in two semesters , Text Book : Introduction to Solid State Physics, C. Kittle, 1983*
5. *" **Advanced Solid State Physics** " Course in two semesters , Text Book : Solid State Physics, Ashcroft&Mermin)*
6. *" **Statistical Mechanics** " Course in one semester, Text Book :Fundamentals of Statistical and Thermal Physics, F. Reif , McGraw-Hill,1985.*
7. *" **Advanced Statistical Mechanics** " Course in one semester, Text Book :Statistical Mechanics, R. K. Pathria ,2nd edition, 1996.*
8. *" **Thermodynamics** " Course in one semester ,Text Book : Zemansky*
9. *"**Optics**", Course in one semester, Text Book, Introduction to modern optics, G. R. Fowles.*
10. *" **Fundamentals of Physics**", Course in three semesters, Text Book : Haliday*
11. *"**Many Body Physics in Condensed Matter Physics**", Course in two semesters, Text Books : Bruus&Flensberg, Mahan, Doniach&Sondheimer, Nolting, Inkson*

COURSES

1. ***In Ph.D. LEVEL:** Many Body systems {Doniach&Mahan&Feter}, Critical Phenomena {Goldenfeld}, Condensed Matter (1,2), Specific topics on transport {Datta&?}, Individual study on Coherent Potential Approximation {Gonis}.*
2. ***In M.S. LEVEL:** Advanced Quantum Mechanics {Sakurai(1,2)}, Advanced Solid State Physics {Ashcroft(1,2)}, Advanced Statistical Mechanics {Pathria}, Electrodynamics {Jackson}, Computational Physics, Mathematical Physics {Arfken},Seminar On Integrated Optics.*

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